

search notes

=> s altered(w)plastidic and potato
L1 6 ALTERED(W) PLASTIDIC AND POTATO

=> d l1 1-6 ti

- L1 ANSWER 1 OF 6 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2003) on STN
- TI Tuber physiology and properties of starch from tubers of transgenic **potato** plants with **altered plastidic** adenylate transporter activity.
- L1 ANSWER 2 OF 6 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2003) on STN
- TI **Altered plastidic** ATP/ADP-transporter activity influences **potato** (*Solanum tuberosum* L.) tuber morphology, yield and composition of tuber starch.
- L1 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
- TI Tuber physiology and properties of starch from tubers of transgenic **potato** plants with **altered plastidic** adenylate transporter activity.
- L1 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
- TI **Altered plastidic** ATP/ADP-transporter activity influences **potato** (*Solanum tuberosum* L.) tuber morphology, yield and composition of tuber starch.
- L1 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
- TI Tuber physiology and properties of starch from tubers of transgenic **potato** plants with **altered plastidic** adenylate transporter activity
- L1 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
- TI **Altered plastidic** ATP/ADP-transporter activity influences **potato** (*Solanum tuberosum* L.) tuber morphology, yield and composition of tuber starch

=> d l1 2 ibib ab

- L1 ANSWER 2 OF 6 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2003) on STN

ACCESSION NUMBER: 1999:48601 AGRICOLA
DOCUMENT NUMBER: IND21990605
TITLE: **Altered plastidic**
ATP/ADP-transporter activity influences **potato**
(*Solanum tuberosum* L.) tuber morphology, yield and
composition of tuber starch.
AUTHOR(S): Tjaden, J.; Mohlmann, T.; Kampfenkel, K.; Henrichs,
G.; Neuhaus, H.E.
CORPORATE SOURCE: Universitat Osnabruck, Osnabruck, Germany.
AVAILABILITY: DNAL (QK710.P68)
SOURCE: The Plant journal : for cell and molecular biology,
Dec 1998. Vol. 16, No. 5. p. 531-540
Publisher: Oxford : Blackwell Sciences Ltd.
ISSN: 0960-7412

NOTE: Includes references
PUB. COUNTRY: England; United Kingdom
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

AB The metabolic function of the plastidic ATP/ADP transporter (AATP) in heterotrophic plastids was examined in transgenic **potato** plants that exhibited increased or decreased amounts of the protein. Altered mRNA levels correlated with activities of the plastidic ATP/ADP transporter. **Potato** tubers with decreased plastidic ATP/ADP transporter activities exhibited reduced starch contents whereas sense lines accumulated increased amounts of tuber starch. Starch from wild-type tubers had an amylose content of 18.8%, starch from antisense plants contained 11.5-18.0% amylose, whereas starch from sense plants had levels of 22.7-27.0%. The differences in physiological parameters were accompanied with altered tuber morphology. These changes are discussed with respect to the stromal ATP supply during starch biosynthesis.

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
9.83	10.04

FULL ESTIMATED COST

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FILE CONTAINS CURRENT INFORMATION.
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=> file agricola biosis embase caplus
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
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0.54	10.58

FULL ESTIMATED COST

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=> s ATP/ADP transporter and monocot
MISSING OPERATOR

=> s ATP(w)ADP transporter and monocot
L2 1 ATP(W) ADP TRANSPORTER AND MONOCOT

=> d 12 1

L2 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 1997:316652 BIOSIS
DN PREV199799607140
TI ADP-glucose drives starch synthesis in isolated maize endosperm
amyloplasts: Characterization of starch synthesis and transport properties
across the amyloplast envelope.

AU Moehlmann, Torsten; Tjaden, Joachim; Henrichs, Gundrun; Quick, W. Paul;
 Haeusler, Rainer; Neuhaus, H. Ekkehard [Reprint author]
 CS Pflanzenphysiol., Univ. Osnabrueck, Barbarastr. 11, D-49069 Osnabrueck,
 Germany
 SO Biochemical Journal, (1997) Vol. 324, No. 2, pp. 503-509.
 ISSN: 0264-6021.
 DT Article
 LA English
 ED Entered STN: 26 Jul 1997
 Last Updated on STN: 26 Jul 1997

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	11.21	21.79

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FILE CONTAINS CURRENT INFORMATION.
 LAST RELOADED: Nov 28, 2003 (20031128/UP).

=> s plastidic and ATP(w)ADP transporter and maize

0 PLASTIDIC
 1 ATP
 0 ADP
 0 TRANSPORTER
 0 ADP TRANSPORTER
 (ADP(W)TRANSPORTER)
 0 ATP(W)ADP TRANSPORTER
 0 MAIZE

L3 0 PLASTIDIC AND ATP(W)ADP TRANSPORTER AND MAIZE

=> file agricola biosis embase caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.72	22.51

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=> s plastidic and ATP(w)ADP transporter and maize

L4 0 PLASTIDIC AND ATP(W) ADP TRANSPORTER AND MAIZE

=> s plastidic and ATP(w)ADP and transporter and maize

L5 0 PLASTIDIC AND ATP(W) ADP AND TRANSPORTER AND MAIZE

=> s plastidic and ATP and transporter and maize

L6 0 PLASTIDIC AND ATP AND TRANSPORTER AND MAIZE

=> s plastid? and ATP and transporter and maize

L7 4 PLASTID? AND ATP AND TRANSPORTER AND MAIZE

=> d 17 1-4 ti

L7 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI ADP-glucose drives starch synthesis in isolated **maize** endosperm
amyloplasts: Characterization of starch synthesis and transport properties
across the amyloplast envelope.

L7 ANSWER 2 OF 4 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN
TI ADP-glucose drives starch synthesis in isolated **maize** endosperm
amyloplasts: Characterization of starch synthesis and transport properties
across the amyloplast envelope.

L7 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
TI The synthesis and transport of ADPglucose in cereal endosperms

L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
TI ADP-glucose drives starch synthesis in isolated **maize** endosperm
amyloplasts: characterization of starch synthesis and transport properties
across the amyloplast envelope

=> d 17 3 ti ab ibib

L7 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
TI The synthesis and transport of ADPglucose in cereal endosperms
AB A review. Recent studies of the subcellular compartmentation of starch
synthesis have revealed differences between events in monocotyledenous
endosperm compared with other starch storing tissues and species.
ADPglucose pyrophosphorylase (AGPase) has been found to be located in both
amyloplasts and cytosol of barley, rice and **maize**. We have
found a similar distribution in developing endosperm of wheat, although as
much as 30% of total cellular AGPase is localized in amyloplasts, a far
higher proportion than for other species. Intriguingly the wheat
amyloplast enzyme is activated only 2-fold by 3-phosphoglyceric acid
(3-PGA) when assayed in the direction of ADPglucose (ADPG) synthesis, and
3-PGA does not reactivate the enzyme when it is inhibited by high concns.
of inorg. orthophosphate. In view of the cytosolic localization of the
majority of AGPase activity, we have studied the transport of ADPG into
amyloplasts. The **transporter** has been reconstituted into
artificial lipid bilayers and shown to counter-exchange ADPG with
ATP, ADP or AMP, but the protein does not transport UDPglucose
(UDPG). The import of ADPG from the cytosol into amyloplasts offers a
means of regulating both the flux of carbon to the enzymes of starch
synthesis, and the nature of the end product. The role of ADPG transport
in controlling the partitioning of carbon between amylose and amylopectin
will be discussed.

ACCESSION NUMBER: 2003:579955 CAPLUS
DOCUMENT NUMBER: 139:194312
TITLE: The synthesis and transport of ADPglucose in cereal
endosperms
AUTHOR(S): Tetlow, Ian J.; Bowsher, Caroline G.; Scrae-Field,
Edward F. A. L.; Davis, Emma J.; Emes, Michael J.
CORPORATE SOURCE: Sch. Biol. Sci., Univ. Manchester, Manchester, UK
SOURCE: Journal of Applied Glycoscience (2003), 50(2), 231-236
CODEN: JAGLFX; ISSN: 1344-7882
PUBLISHER: Japanese Society of Applied Glycoscience
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

=> s AATP and monocot

L8 2 AATP AND MONOCOT

=> d 18 1-2

L8 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 2000:405721 BIOSIS
DN PREV200000405721
TI Protein degradation related to dehydration tolerance and developmental
stages of spring wheat.
AU Wisniewski, K. [Reprint author]; Zagdanska, B. [Reprint author]
CS Plant Biochemistry and Physiology Department, Plant Breeding and
Acclimatization Institute, Radzikow, 00-950, Warszawa, Poland
SO Bulgarian Journal of Plant Physiology, (1998) No. Special Issue, pp. 190.
print.
Meeting Info.: 11th Congress of the Federation of European Societies of
Plant Physiology. Varna, Bulgaria. September 07-11, 1998.
ISSN: 1310-4586.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 20 Sep 2000
Last Updated on STN: 8 Jan 2002

L8 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 1990:381669 BIOSIS
DN PREV199090068350; BA90:68350
TI PROTON EFFLUX AND HEXOSE TRANSPORT UNDER IMPOSED ENERGY STATUS IN MAIZE
ROOT TIPS.
AU XIA J-H [Reprint author]; SAGLIO P
CS STN DE PHYSIOL VEG, INRA, CENT DE RECHERCHES DE BORDEAUX, BP 81, 33883
VILLENAVE D'ORNON CEDEX, FRANCE
SO Plant Physiology (Rockville), (1990) Vol. 93, No. 2, pp. 453-459.
CODEN: PLPHAY. ISSN: 0032-0889.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 21 Aug 1990
Last Updated on STN: 22 Aug 1990

=> s AATP and plastid? and plant

L9 9 AATP AND PLASTID? AND PLANT

=> duplicate remove 19

DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, CAPLUS'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L9

L10 4 DUPLICATE REMOVE L9 (5 DUPLICATES REMOVED)

=> d 110 1-4 ibib ab

L10 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
ACCESSION NUMBER: 2003:396131 BIOSIS
DOCUMENT NUMBER: PREV200300396131
TITLE: Girdling affects carbohydrate-related gene expression in
leaves, bark and roots of alternate-bearing citrus trees.
AUTHOR(S): Li, Chun-Yao; Weiss, David; Goldschmidt, Eliezer E.
[Reprint Author]
CORPORATE SOURCE: The Institute of Plant Sciences and Genetics in
Agriculture, Faculty of Agricultural, Food, and
Environmental Quality Sciences, The Hebrew University of
Jerusalem, Rehovot, 76100, Israel
goldsmi@argi.huji.ac.il

SOURCE: Annals of Botany (London), (July 2003) Vol. 92, No. 1, pp. 137-143. print.
CODEN: ANBOA4. ISSN: 0305-7364.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 27 Aug 2003

Last Updated on STN: 27 Aug 2003

AB Effects of girdling on carbohydrate status and carbohydrate-related gene expression in citrus trees were investigated. Alternate-bearing 'Murcott' (a Citrus reticulata hybrid of unknown origin) trees were girdled during autumn (25 Sep. 2001) and examined 10 weeks later. Girdling brought about carbohydrate (soluble sugar and starch) accumulation in leaves and shoot bark above the girdle, in trees during their fruitless, 'off' year. Trees during their heavy fruit load, 'on' year did not accumulate carbohydrates above the girdle due to the high demand for carbohydrates by the developing fruit. Girdling caused a strong decline in soluble sugar and starch concentrations in organs below the girdle (roots). in both 'on' and 'off trees. Expression of STPH-L and STPH-H (two isoforms of starch phosphorylase). Agps (ADP-glucose pyrophosphorylase, small subunit). **AATP** (**plastidic** ADP/ATP transporter). PGM-C (phosphoglucumutase) and CitSuS1 (sucrose synthase), all of which are associated with starch accumulation. was studied. It was found that gene expression is related to starch accumulation in all 'off' tree organs. RNA levels of all the genes examined were high in leaves and bark that accumulated high concentrations of starch, and low in roots with declining starch concentrations. It may be hypothesized that changes in specific sugars signal the up- and down-regulation of genes involved in starch synthesis.

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(2003) on STN DUPLICATE 2

ACCESSION NUMBER: 2003:54225 AGRICOLA

DOCUMENT NUMBER: IND23341530

TITLE: Effects of carbohydrate starvation on gene expression in citrus root.

AUTHOR(S): Li, C.Y.; Weiss, D.; Goldschmidt, E.E.

SOURCE: Planta, May 2003. Vol. 217 No. 1. p. 11-20

Publisher: Berlin : New York : Springer-Verlag, 1925-
CODEN: PLANAB; ISSN: 0032-0935

NOTE: Includes references

PUB. COUNTRY: Germany

DOCUMENT TYPE: Article

FILE SEGMENT: Non-U.S. Imprint other than FAO

LANGUAGE: English

AB The roots of alternate-bearing citrus (Murcott, a Citrus reticulata hybrid) trees undergo extreme fluctuations of carbohydrate abundance and starvation. Using this system, we investigated the effect of root carbohydrate (total soluble sugar, sucrose and starch) depletion on carbohydrate-related gene expression. A series of genes, including those coding for starch phosphorylase (STPH-L and STPH-H), ADP-glucose pyrophosphorylase, small subunit (Agps), R1, **plastidic** ADP/ATP transporter (**AATP**), phosphoglucumutase (PGM-P and PGM-C), sucrose synthase (CitSuS1 and CitSuSA), sucrose transporter (SUT1 and SUT2), hexokinase (HK) and alpha-amylase (alpha-AMY), have been isolated and their expression analyzed. The genes were found to respond differentially to carbohydrate depletion. STPH-L, STPH-H, Agps, R1, **AATP**, PGM-P, PGM-C, CitSuS1 and HK were down-regulated while SUT1 and alpha-AMY were up-regulated during carbohydrate depletion. Two other genes, CitSuSA and SUT2, did not respond to carbohydrate depletion. Fruit removal, which interrupted the carbohydrate depletion induced by heavy fruiting, reversed these gene expression patterns. Trunk girdling and whole-plant darkening treatments, which brought about root

carbohydrate depletion, induced the same changes in gene expression obtained in the alternate-bearing system. The possible roles of the up- and down-regulated genes in the metabolism of carbohydrate-depleted citrus roots are discussed. Although the specific signals involved have not been determined, the results support the feast/famine hypothesis of carbohydrate regulation proposed by Koch [K.E. Koch (1996) *Annu Rev Plant Physiol Plant Mol Biol* 47:509-540].

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ACCESSION NUMBER: 1999:48601 AGRICOLA
DOCUMENT NUMBER: IND21990605
TITLE: Altered **plastidic** ATP/ADP-transporter activity influences potato (*Solanum tuberosum* L.) tuber morphology, yield and composition of tuber starch.
AUTHOR(S): Tjaden, J.; Mohlmann, T.; Kampfenkel, K.; Henrichs, G.; Neuhaus, H.E.
CORPORATE SOURCE: Universitat Osnabruck, Osnabruck, Germany.
AVAILABILITY: DNAL (QK710.P68)
SOURCE: The Plant journal : for cell and molecular biology, Dec 1998. Vol. 16, No. 5. p. 531-540
Publisher: Oxford : Blackwell Sciences Ltd.
ISSN: 0960-7412
NOTE: Includes references
PUB. COUNTRY: England; United Kingdom
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

AB The metabolic function of the **plastidic** ATP/ADP transporter (**AATP**) in heterotrophic **plastids** was examined in transgenic potato **plants** that exhibited increased or decreased amounts of the protein. Altered mRNA levels correlated with activities of the **plastidic** ATP/ADP transporter. Potato tubers with decreased **plastidic** ATP/ADP transporter activities exhibited reduced starch contents whereas sense lines accumulated increased amounts of tuber starch. Starch from wild-type tubers had an amylose content of 18.8%, starch from antisense **plants** contained 11.5-18.0% amylose, whereas starch from sense **plants** had levels of 22.7-27.0%. The differences in physiological parameters were accompanied with altered tuber morphology. These changes are discussed with respect to the stromal ATP supply during starch biosynthesis.

L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:779750 CAPLUS
DOCUMENT NUMBER: 123:193893
TITLE: Genetic determination of a nodule-stimulated aspartate aminotransferase (AAT-2) isoenzyme in pea (*Pisum sativum* L.)
AUTHOR(S): Fedorova, M. Yu.; Borisov, A. Yu.; Tsyganov, V. E.; Rozov, S. M.; Filatov, A. A.; Tikhonovich, I. A.
CORPORATE SOURCE: All-Russian Research Inst. of Agricultural Microbiology, St. Petersburg, 190121, Russia
SOURCE: Genetika (Moscow) (1994), 30(11), 1495-500
CODEN: GNKAA5; ISSN: 0016-6758
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The synthesis of pea aspartate aminotransferase-2 isoenzyme (AAT-2) increases in developing symbiotic nodules. Polymorphism of pea forms was revealed by differential electrophoretic mobility of AAT-2. Crosses of pea lines differing in this trait and anal. of the F2 generation showed

monogenic control of the synthesis of AAT-2 isoforms. Data of genetic anal. demonstrates that the gene encoding AAT-2 is located in linkage group I, and its position coincides with the location of the gene Aat-p which encodes the **plastid** form of the enzyme. Results suggest a **plastid** location of the AAT-2 isoenzyme.